date: 02/26/2008

Sheet

FEB 2 6 2008

PTO/SB/08A (01-08)

Approved for use through 02/29/2008. OMB 0651-0031 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

der the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

of

Col	mpiete if Known	•
Application Number	10/560,351	
Filing Date	December 12, 2005	
First Named Inventor	Valery N. Khabashesku	
Art Unit	2621	
Examiner Name	Unknown	
Attorney Docket Number	11321-P073WOLLS	

	U. S. PATENT DOCUMENTS							
Examiner Initials*	Cite No. <sup>1</sup>	Document Number  Number-Kind Code <sup>2 (# known)</sup>	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear			
-		<sup>US-</sup> 5,374,415	12-20-1994	ALIG et al.				
	<u> </u>	<sup>US-</sup> 2006/0171874 A1	08-03-2006	KHABASHESKU et al.				
		US-						
		US-						
		US-						
		US-						
		US-						
		US-						
		US-						
		US-						
		US-						
		US-						
		US-						
		US-						
		US-						
		US-						
		US-						
		US-						
		US-						

-	FOREIGN PATENT DOCUMENTS							
	Cite No.1	Foreign Patent Document	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages	Γ		
		Country Code <sup>3 -</sup> Number <sup>4 -</sup> Kind Code <sup>5</sup> (if known)	MM-DD-YYYY		Or Relevant Figures Appear	T		
						$ lap{ }$		
						Ļ		
						╀		
_						₽		

Examiner Signature	/Syed Iqbal/	Date Considered	02/19/2009

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>See Kinds Codes of USPTO Patent Documents at <a href="https://www.uspto.gov">www.uspto.gov</a> or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup>Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup>Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

PTO/SB/08B (01-08)
Approved for use through 02/29/2008. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449/PTO	Complete if Known		
	Application Number	10/560,351	
INFORMATION DISCLOSURE	Filing Date	December 12, 2005	
STATEMENT BY APPLICANT	First Named Inventor	Valery N. Khabashesku	
(Use as many sheets as necessary)	Art Unit	2621	
(Use as many sneets as necessary)	Examiner Name	Unknown	
Sheet 2 of 4	Attorney Docket Number	11321-P073WOUS	

		NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		IIJIMA, S., "Helical microtubules of graphitic carbon", Nature, 1991, 354, 56-58.	
		IIJIMA, S. et al., "Single-shell carbon nanotubes of 1-nm diameter", Nature, 1993, 363, 603-605.	
		BETHUNE, D. S. et al., "Cobalt-catalysed growth of carbon nanotubes with single-atomic-layer walls", Nature, 1993, 363, 605-607.	
		KHABASHESKU, V. N. et al., "Chemistry of Carbon Nanotubes", Encyclopedia of Nanoscience and Nanotechnology, Ed. S. Nalwa, American Scientific Publishers, 2004, Vol. 1, 849-861	
		KHABASHESKU, V. N. et al., "Fluorination of Single-Wall Carbon Nanotubes and Subsequent Derivatization Reactions", Acc. Chem. Res., 2002, 35, 1087-1095.	
		BAHR, J. L. et al., "Covalent chemistry of single-wall carbon nanotubes", J. Mater. Chem., 2002, 12, 1952-1958.	
		BARRERA, E. V., "Key Methods for Developing Single-Wall Nanotube Composites", JOM, 2000, 52, 38-42.	
		ZHU, J. et al., "Improving the Dispersion and Integration of Single-Walled Carbon Nanotubes in Epoxy Composites through Functionalization", Nano Lett, 2003, 3 No. 8, 1107-1113	
*		ZHU, J. et al., "Reinforcing Epoxy Polymer Composites Through Covalent Integration of Functionalized Nanotubes", Adv. Funct. Mater., 2004, 14, No. 7, 643-648.	
		PANTAROTTO, D. et al., "Synthesis, Structural Characterization, and Immunological Properties of Carbon Nanotubes Functionalized", J. Am. Chem. Soc., 2003, 125, 6160-6164.	

Examiner	/Syed Iqbai/	Date	02/19/2009
Signature		Considered	

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO:

Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Receipt date: 02/26/2008

Sheet

3

4

of

10560351 - GAU: 4181

PTO/SB/08B (01-08)
Approved for use through 02/29/2008. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

11321-P073WOUS

Substitute for form 1449/PTO	Complete if Known				
	Application Number	10/560,351			
INFORMATION DISCLOSURE	Filing Date	December 12, 2005			
STATEMENT BY APPLICANT	First Named Inventor	Valery N. Khabashesku			
(Use as many sheets as necessary)	Art Unit	2621			
(Use as many sneets as necessary)	Examiner Name	Unknown			

Attorney Docket Number

		NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		EBBESEN, T. W., "Carbon Nanotubes", Annu. Rev. Mater. Sci., 1994, 24, 235-264.	
		THESS, A. et al., "Crystalline Ropes of Metallic Carbon Nanotubes", Science, 1996, 273, 483-487.	
		VANDER WAL, R. L. et al., "Flame synthesis of Fe catalyzed single-walled carbon nanotubes and Ni catalyzed nanofibers: growth", Chem. Phys. Lett., 2001, 349, 178-184.	
		HAFNER, J. H. et al., "Catalytic growth of single-wall carbon nanotubes from metal particles", Chem. Phys. Lett., 1998, 296, 195-202.	
		CHENG, H. M. et al., "Bulk morphology and diameter distribution of single-walled carbon nanotubes synthesized by catalytic", Chem. Phys. Lett., 1998, 289, 602-610.	
		NIKOLAEV, P. et al., "Gas-phase catalytic growth of single-walled carbon nanotubes from carbon monoxide", Chem. Phys. Lett., 1999, 313, 91-97.	
		O'CONNELL, M. J. et al., "Band Gap Fluorescence from Individual Single-Walled Carbon Nanotubes", Science, 2002, 297, 593-596.	
• **		BACHILO, S. M. et al., "Structure-Assigned Optical Spectra of Single-Walled Carbon Nanotubes", Science, 2002, 298, 2361-2366.	
		STRANO, M. S. et al., "Electronic Structure Control of Single-Walled Carbon Nanotube Functionalization", Science, 2003, 301, 1519-1522.	
		CHIANG, I. W. et al., "Purification and Characterization of Single-Wall Carbon Nanotubes", J. Phys. Chem. B, 2001, 105, 1157-1161.	

Examiner /Syed lqbal/	Date 02/19/2009	
Signature	Considered	

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO:

Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

PTO/SB/08B (01-08) Approved for use through 02/29/2008. OMB 0651-0031 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

11321-P073WOUS

Substitute for form 1449/PTO			t of 1995, no persons at	Complete if Known			
Cabolilat			Application Number	10/560,351			
INFORMATION DISCLOSURE			CLOSURE	Filing Date	December 12, 2005		
STATEMENT BY APPLICANT		First Named Inventor	Valery N. Khabashesku				
	(Use as many sheets as necessary)		occessed.	Art Unit	2621		
	(USE as many s	neets as n	ecessary)	Examiner Name	Unknown		
Sheet	4	of	4	Attorney Docket Number	11321-P073WOUS		

		NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		CHIANG, I. W. et al., "Purification and Characterization of Single-Wall Carbon Nanotubes (SWNTs) Obtained from the Gas-Phase", J. Phys. Chem. B, 2001, 105, 8297-8301.	
		LIU, J. et al., "Fullerene Pipes", Science, 1998, 280, 1253-1256.	
		GU, Z. et al., "Cutting Single-Wall Carbon Nanotubes through Fluorination", Nano Lett., 2002, 2, No. 9, 1009-1013.	
-		KUDIN, K. N. et al., "Fluorinated single-wall carbon nanotubes", Phys. Rev. B, 2001, 63, 45413.	
		MICKELSON, E. T., "Novel Chemistry of Elemental Carbon: Graphite, Fullerenes and Nanotubes", Ph. D. Thesis, Rice University, Houston, Texas, 1999.	
		MICKELSON, E. T. et al., "Solvation of Fluorinated Single-Wall Carbon Nanotubes in Alcohol Solvents", J. Phys. Chem. B, 1999, 103, 4318-4322.	
		STEVENS, J. L. et al., "Sidewall Amino-Functionalization of Single-Walled Carbon Nanotubes through Fluorination and Subsequent", Nano Lett., 2003, 3, No. 3, 331-336.	
		MICKELSON, E. T. et al., "Fluorination of single-wall carbon nanotubes", Chem. Phys. Lett., 1998, 296, 188-194.	
		PENG, H. et al., "Sidewall functionalization of single-walled carbon nanotubes with organic peroxides", Chem. Comm., 2003, 362-363.	
		PENG, H. et al., "Sidewall Carboxylic Acid Functionalization of Single-Walled Carbon Nanotubes", J. Am. Chem. Soc., 2003, 125, 15174-15182.	

Examiner	10 11 11	Date	02/19/2009
Signature	/Syed Iqbal/	Considered	

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.